REMARKS

Summary of Final Office Action

Claims 11-27 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by SCHMIDT et al., U.S. Patent No. 6,287,639 (hereafter "SCHMIDT I") as evidenced by MDDS data sheet of Sigma-Aldrich.

Claims 11, 17 and 18 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by SCHMIDT et al., U.S. Patent No. 6,378,599 (hereafter "SCHMIDT II") as evidenced by MDDS data sheet of Sigma-Aldrich.

Claims 28, 29 and 30 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Espin et al., U.S. Patent No. 6,513,592 (hereafter "ESPIN") in view of SCHMIDT I as evidenced by MDDS data sheet of Sigma-Aldrich.

Response to Office Action

Reconsideration and withdrawal of the rejections set forth in the Final Office Action are again respectfully requested.

In this regard, the arguments set forth in the Appeal Brief filed December 8, 2009 and the Reply Brief filed March 23, 2010 are referred to. The corresponding remarks are expressly incorporated herein. Further, consideration of the additional arguments set forth below is respectfully requested.

In the Final Office Action mailed July 8, 2009 the Examiner alleges, *inter alia*, that even the particle-free consolidating agent recited in independent claim 11 is anticipated by SCHMIDT I and SCHMIDT II because the "consolidating agents" described therein allegedly are particle-free as well.

Applicants respectfully disagree with the Examiner for all of the reasons which are set forth in the Appeal Brief and the Reply Brief. Applicants further submit that even if the facts set forth in the Appeal Brief and the Reply Brief were disregarded the Examiner's assumption that the nanoparticles (colloidal inorganic particles) such as, e.g., the (preferred) colloidal silica of SCHMIDT I do not exhibit any binding or consolidating action but are merely used as a filler is apparently incorrect.

In particular, that "colloidal inorganic particles" such as "colloidal silica" **are commonly used as binding agents** is well known to those of skill in the art, as evidenced by the articles and product brochures retrieved from the Internet, copies of which are enclosed herewith:

(1) Wikipedia, entry "Colloidal silica", http://en.wikipedia.org/wiki/Colloidal_silica

(2) KÖSTROSOL, Technical customer information

(3) Nissan Chemical "Snowtex", http://www.nissanchem-usa.com/snowtex.php

(4) AkzoNobel, "Colloidal silica applications"

(5) Chinatech, "Superfine Silica Sol with High Purity", http://www.chainatech.com/selica.htm.

For example, (1) sets forth the application of colloidal silica as a binder. The product brochures (2) to (5) also provide evidence that colloidal silica is commonly used as as binding agent

or adhesive. Further, according to (2), the colloidal SiO_2 commercial products KÖSTROSOL 0830 and KÖSTROSOL 1030 "are used as binding agents for various substances such as ... natural stone". According to (5), "silica sol is a commonly used water soluble adhesive".

The above facts should make it clear that the nanocomposite of, e.g., SCHMIDT I is a modification of a conventionally known binder, namely colloidal silica, by modifying the surface of the colloidal particles with a silane component. Hence, it should be apparent that the basic binder component of the nanocomposite of SCHMIDT I is the "colloidal inorganic particle" which plays a crucial role in the actual bonding. This is also in conformity with the teaching of ESPIN set forth in the Appeal Brief and Reply Brief.

The binding function of colloidal silica particles is based on the nanoscale dimension of the particles. As known by those of skill in the art, many of the properties of nanoscale particles, i.e., extremely small particles, are entirely different from corresponding particles of "conventional" size. Sand can, of course, not be used as a binding agent. Colloidal silica and sand are materials having entirely different properties.

CONCLUSION

In view of the foregoing, it still is believed that all of the claims in this application are in condition for allowance, which action is again respectfully requested. If any issues yet remain which can be resolved by a telephone conference, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

Respectfully submitted,
Klaus ENDRES et al.

/Heribert F. Muensterer/

Heribert F. Muensterer
Reg. No. 50,417

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191